

FINAL ENVIRONMENTAL ASSESSMENT

U.S. FISH AND WILDLIFE SERVICE
PROPOSED MAINTENANCE OPERATIONS COMPLEX AND RESIDENCE
MINNESOTA VALLEY NATIONAL WILDLIFE REFUGE
CARVER, MINNESOTA

In compliance with the National Environmental Policy Act of 1969

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**FINAL
ENVIRONMENTAL ASSESSMENT
FOR
MAINTENANCE OPERATIONS COMPLEX AND RESIDENCE PROJECT
MINNESOTA VALLEY NATIONAL WILDLIFE REFUGE**

1. Purpose and Need

1.1 Purpose

The purpose of this Environmental Assessment (EA) is to consider alternatives for the replacement of the Rapids Lake Maintenance Complex and for the construction of a Refuge Residence to provide facilities that will meet the needs of the U.S. Fish and Wildlife Service (Service) in managing the Minnesota Valley National Wildlife Refuge (NWR).

The replacement of the existing maintenance facility and construction of a refuge residence at Rapids Lake are identified as two of several strategies which will support Public Use on the Refuge. The Service's objective for public use facilities as identified in the draft Comprehensive Conservation Plan (CCP) under the Public Use goal is to *"...develop new and maintain existing facilities to promote public advocacy and use of the Refuge and Waterfowl Production Areas. Public use facilities will be developed and maintained at a high standard ensuring public safety and a positive reflection upon the Service."* The proposed development would allow the Service to achieve a high standard of maintenance and safety at all public use facilities such as parking lots, trails and buildings in addition to providing security and protection of those same facilities.

1.2 Need:

As the responsibilities and demands on the Refuge have increased, the need to provide the proper facilities for the operations and maintenance of the Refuge and services for the public has also increased. This need has far exceeded the capability of the two current maintenance complexes located on the Refuge (See Appendix B, Map #1).

Current and future Refuge maintenance and operational needs were considered in identifying space requirements. The space requirement of a new maintenance shop for the Rapids Lake Maintenance Complex would be approximately 3,200 square feet, inclusive of office space for Refuge staff. Parking space to accommodate approximately 10 personal and Service vehicles with additional space for heavy equipment would be needed.

Facilities and equipment located at Rapids Lake have been and continue to be subject to a variety of problems including theft, vandalism, and arson. The Refuge has a need to be fiscally responsible by ensuring both the security and protection of its capital improvements. Development of a Refuge Residence is expected to consist of a one-story three bedroom rambler style, single family home with a full basement and attached garage. This residence would be occupied by a Refuge employee, preferably with law enforcement authority, to provide security for all facilities located at the Rapids Lake Unit.

General site selection criteria developed by the Service that will be considered in selecting a site includes:

- a. Suitable and buildable land – the sites should be adequate in size to accommodate full development (no less than two acres for the residence and no less than five acres for the maintenance complex) and potential future expansion; meet the requirements of Carver County Ordinance No. 47 and associated Carver County Land and Water Management plans; and be located on upland territory.
- b. Public uses - development should not create conflict with public uses.
- c. Visual resources - site development should not be visually intrusive.
- d. Presence of contaminants – the sites should be free of contaminants or hazardous materials.
- e. Environmental impact of facility – the sites should consist of land previously disturbed. Minimal impact to wildlife, sensitive habitats, and water quality should occur. Site development should not occur on native ecosystems.
- f. Protection of cultural resources - site development should protect cultural resources from damage and loss.
- g. Security and protection of improvements - site development should provide comprehensive security and protection of Refuge resources and improvements.

1.3 Decisions that Need to be Made

The Service's Regional Director will select one of the alternatives analyzed in detail and will determine, based on the facts and recommendations contained herein, whether this Environmental Assessment is adequate to support a Finding of No Significant Impact (FONSI) decision, or whether an Environmental Impact Statement (EIS) will need to be prepared.

1.4 Background

The U.S. Fish and Wildlife Service administers Minnesota Valley National Wildlife Refuge as a unit of the National Wildlife Refuge System. The Refuge was established in 1976 by Congress through the Minnesota Valley National Wildlife Refuge Act (*Public Law 94-466*;

October 8, 1976) to (1) provide habitat for a large number of migratory waterfowl, fish, and other wildlife species; (2) to provide environmental education, wildlife recreational opportunities, and interpretive programs for Twin Cities residents; (3) to protect important natural resource areas from degradation; and to (4) protect the valley's unique social, educational, and environmental assets.

Minnesota Valley National Wildlife Refuge is one of more than 540 refuges in the National Wildlife Refuge System. The National Wildlife Refuge System is a network of lands and waters managed specifically for the protection of wildlife and wildlife habitat and represents the most comprehensive wildlife management program in the world.

The authorized boundary of the Minnesota Valley NWR encompasses 14,000 acres. Nearly 11,500 acres of the authorized 14,000 acres are owned or managed as part of the Refuge. Some areas are not owned by the Service but are administered through management agreements. The Refuge consists of eight units along a 34 mile stretch of the Minnesota River located between historic Fort Snelling and the city of Jordan. Minnesota Valley NWR is unique in that it is one of only four urban refuges.

In 1986, Minnesota Valley National Wildlife Refuge purchased property inclusive of several structures, in Shakopee. This property was designated to serve as the Refuge's future maintenance complex. Even though the property was purchased in 1986, the original owner retained use rights for the buildings until April, 1989. The buildings at that time were in poor to fair condition and had been used as part of an auto salvage operation. The buildings on the property consisted of a large metal Quonset, a large wood frame double door shop, and a 14' x 70' mobile home. A substantial amount of rehabilitation work was done to the buildings to convert them to maintenance/office structures. By September of 1989, the Refuge had its first maintenance complex with running water and adequate work space to manage the 7,000 acres it owned or managed. Up until that time, the Refuge leased space in Burnsville to serve as their maintenance facility. The mobile home has since been replaced with a smaller construction-site office trailer. Both the shop and Quonset are still being used as maintenance buildings and the area as a whole, continues to serve as the Refuge's primary maintenance complex.

In 1997, following the purchase of the Mittelsted tract in 1995, the Refuge's maintenance capabilities expanded. The Mittelsted tract, currently known as the Rapids Lake Unit, consisted of a farmstead with several outbuildings. The majority of the outbuildings were older and directly related to the Mittelsted's farming operation which occurred there. Three of the existing outbuildings were in fair to good shape and identified

as potential Refuge maintenance buildings. Those buildings consisted of a small metal, single door, heated garage and two large metal machine sheds. Use of these three structures as a supplemental maintenance complex greatly enhanced the Refuge's ability to maintain the 9,600 acres it then owned or managed. Currently the small garage continues to be used as a maintenance shop while the two machine sheds are used for equipment and supply storage. Most of the remaining unused outbuildings have since been removed from the site. A small metal building has been added to the site to serve as the Refuge's hazardous materials storage building.

As stated earlier, nearly 11,500 acres of the authorized 14,000 acres are now currently owned or managed as part of the Refuge. The existing Refuge maintenance facilities were not originally planned and constructed for their current use. The Refuge has made due with these facilities and their deficiencies, even as its land-base and infrastructure have grown in size. Capital improvements including a 32,000 square foot visitor center, 17 entrance signs, 27 parking lots, 37 gates, nine information kiosks, 15 public use structures, six historic structures, six bridges, 16 water control structures, and 25 miles of hiking trails translate into significant maintenance needs. Maintenance of the Refuge and its infrastructure is one of the largest challenges facing an urban national wildlife refuge such as Minnesota Valley. Another significant challenge facing an urban national wildlife refuge is the security and protection of its capital improvements. These challenges will grow as the Refuge acquires additional acreage of fish and wildlife habitat within or adjacent to the Minnesota River Valley beyond the existing Refuge boundary and expands its infrastructure.

"The National Wildlife Refuge System Improvement Act of 1997" provides guidance to help ensure a healthy Refuge System by stating "*The mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.*" Development of a new Maintenance Complex and Refuge Residence at Rapids Lake would contribute to the fulfillment of this mission.

Components of the draft Comprehensive Conservation Plan for Minnesota Valley National Wildlife Refuge are the proposals to seek construction funding for upgrading and replacing the two existing maintenance complexes and building a refuge residence. The proposed maintenance complex construction projects have been identified within the Maintenance Management System (MMS) database. The refuge residence construction project has been identified within the Refuge Operating

Needs System (RONS) database. To date, funding has only been secured for the replacement of the Rapids Lake Maintenance Complex and construction of the Refuge Residence.

2. Alternatives Including the Proposed Action

This section addresses the proposed action and alternatives considered in meeting the purpose and need for the project. Alternatives eliminated from further consideration are also identified and summarized.

2.1 Alternatives not Considered for Detailed Analysis

2.1.1 Development on Rapids Lake Unit-Mittelsted Picnic Shelter

The development of a Maintenance Complex on the Rapids Lake Unit at the upland site formerly known as the Mittelsted Picnic Shelter (See Appendix B, Map #2) was eliminated from further consideration because this site consists of a remnant native prairie. Developing a Complex at this site would maximize the effects on the natural ecological features and processes present.

2.1.2 Development on Louisville Swamp Unit

The development of a Maintenance Complex at an upland site on the Louisville Swamp Unit (See Appendix B, Map #2) was eliminated from further consideration because this site also consists of a remnant native prairie. Developing a Complex at this site would maximize the effects on the natural ecological features and processes present.

2.1.3 Development on other Refuge Units

The development of a maintenance complex on other Refuge units was eliminated from further consideration because no other suitable upland site exists at any of the units.

2.1.4 Development on Leased Property

The development of a maintenance complex on leased property was eliminated from further consideration because doing so would not be fiscally responsible while developable Refuge land exists.

2.1.5 Development on a Historic Property

Section 110(a)(1) of the National Historic Preservation Act requires "Prior to acquiring, constructing, or leasing buildings for purposes of carrying out agency responsibilities, each Federal agency shall use, to the maximum extent feasible, historic properties available to the agency." The Refuge owns no historic properties suitable for a maintenance complex, and a review of the National Register of Historic Places indicates no suitable or

available historic properties in the vicinity of this part of the Refuge.

2.2 Alternatives Carried Forward for Detailed Analysis

2.2.1 Elements Common to All Alternatives

The Shakopee maintenance complex would remain as is and would continue to be used as a maintenance complex regardless of the decision made as a result of this Environmental Assessment. Required maintenance such as roof repairs would be conducted as necessary. At such time when funding becomes available, the Shakopee maintenance complex would be considered for replacement or upgrade in a process similar to this one.

2.2.2 Alternative A (Proposed Action)

The U.S. Fish and Wildlife Service's proposed action is to develop bluff top, Service owned land near Mittelsted House #1 (See Section 3.1.5 for further description) as the site of the new Maintenance Complex and bluff top, Service owned property formerly known as the Lutz Farm as the site of the Refuge Residence (See Appendix B, Map #3). Historically both areas had been used in agricultural production but have since been restored to native plant communities (prairie). Currently no improvements (utilities, sewer, water, etc.) exist at either site, except for an old driveway at the former Lutz Farm.

A twenty acre parcel located off of Carver Highlands Drive has been identified for development of the new Maintenance Complex. Complex development at this proposed site would include the construction of a new 3,200 square foot maintenance shop in addition to relocating the two large machine sheds and hazardous materials storage building from the existing Rapids Lake maintenance site to the new Complex site. Up to approximately one-quarter mile of new road would be constructed to access the new complex. The new road would be 24 feet in width, gravel surfaced with necessary drainage features. Approximately seven of the 20 acres would be developed with this proposal, leaving 13 acres for future expansion. Upon completion of the new Complex, the existing maintenance shop and all remaining abandoned structures which were originally part of the Mittelsted farm (e.g. granary, mobile home debris, etc.) would be removed. That general area would then be stabilized to address sediment/erosion concerns until such time when a final determination is made regarding either site restoration or future development.

A two acre parcel located directly off of Carver County Road 45 one-quarter mile north of the intersection with Carver County Road 50 has been identified as the site for the Residence. The Refuge Residence would be constructed on the two acres immediately north of the driveway. The width (12-14') of the existing driveway would be maintained and the road surface would be upgraded with approximately four inches of gravel.

The following utility services would be developed at each site and as necessary, according to Carver County Ordinance No. 47. Electric and telephone service would be extended from existing utility features present along County Road 45 and Carver Highlands Drive. Wells would be drilled to provide water and propane tanks/lines would be installed for heating capabilities. Depending upon the soil type present, septic systems consisting either of a drain field or an above-ground mound system would be installed.

2.2.3 Alternative B (No Action)

Under the No Action alternative, no new development would be implemented with this proposal. The maintenance and operational activities would remain at the current Rapids Lake location in existing facilities (See Appendix B, Map #4). Required building maintenance such as roof repairs would still be conducted as necessary.

2.2.4 Alternative C (Renovation with Bluff Top Development)

This alternative considers the potential renovation and expansion of the existing maintenance complex site at Rapids Lake. Also considered with this alternative is the construction of the Refuge Residence on bluff top, Service owned land overlooking the Mittelsted House #1 and existing maintenance complex (See Appendix B, Map #5).

As stated before, the existing Complex was once part of the Mittelsted farmstead. The one benefit of this site is that it is already partially developed. The site is currently located on a small excavated, topographical bench approximately five acres in size. The two large machine sheds are currently in place with electrical service. The existing maintenance shop (small garage) also has electrical service in addition to telephone service. The site also has a working well which currently provides water to the maintenance shop. The minimum amount of acreage would be left available to construct a new maintenance shop at the northwestern corner of the site. The existing paved access road would be upgraded through stabilization of the existing gravel edge. Not-to-

exceed approximately one-eighth mile of new road would be constructed to access the new maintenance shop. The new road would be 24 feet in width, gravel surfaced with necessary drainage features. The existing maintenance shop would be removed upon construction completion of the new building. Additionally, all remaining abandoned structures which were originally part of the Mittelsted farm would be removed and those areas if not utilized as construction sites, would be rehabilitated and restored to native plant communities. Road access and impermeable (paved) road surfaces at this site would be improved to address current sediment/erosion problems.

Construction of the Refuge Residence would occur on a two acre bluff top parcel overlooking the Mittelsted House #1 and existing Complex. A driveway not-to-exceed approximately one-eighth mile in length would be constructed to access the residence. The driveway would be 12 feet in width, crowned and gravel surfaced. This site currently has no improvements.

Minimum development of utility services would be required at the complex site. Electric and telephone service would be extended from existing utility features currently on-site. The existing pump would be replaced and water lines would be extended. A new propane tank/line would be installed for heating capabilities at the new maintenance shop. Depending upon the soil type present, a septic system consisting either of a drain field or an above-ground mound system would be installed. The following utility services would be developed at the residence site. Electric and telephone service would be extended from existing utility features present along Carver Highlands Drive. A well would be drilled to provide water and a propane tank/line would be installed for heating capabilities. Depending upon the soil type present, a septic system consisting either of a drain field or an above-ground mound system would be installed. Utility services would be developed as necessary, according to Carver County Ordinance No. 47.

2.2.5 Alternative D (Dual Bluff top Development)

This alternative considers developing the new Maintenance Complex at the former Lutz Farm in conjunction with constructing the Refuge Residence on the bluff top land overlooking the Mittelsted House #1 (See Appendix B, Map #6).

A total of approximately 15 acres is available at the former Lutz Farm for development into a maintenance complex. As mentioned earlier, this site has been partially rehabilitated and restored to prairie with an old driveway as the only remaining improvement

on site. With this proposal, the new maintenance shop would be constructed on the north side of the driveway. The remaining portion of the Maintenance Complex (relocation of the two large machine sheds and hazardous materials storage building) could either be developed on the south side of the driveway or north of the proposed maintenance shop construction site. Approximately one-eighth mile of the existing driveway would be upgraded to be 24 feet in width and gravel surfaced with necessary drainage features. The driveway entrance at County Road 45 would be upgraded with a new culvert and widening to approximately 30 feet. Dependent upon traffic-related concerns of Carver County's Department of Planning and Zoning, an acceleration lane may need to be added onto County Road 45. The existing maintenance shop and all remaining abandoned structures which were originally part of the Mittelsted farm would be removed upon completion of the new Complex. That general area would then be stabilized to address sediment/erosion concerns until such time when a final determination is made regarding either site restoration or future development.

As with Alternative C, construction of the Refuge Residence would occur on the bluff top parcel overlooking the Mittelsted House #1 and existing Complex. A driveway not-to-exceed approximately one-eighth mile in length would be constructed to access the residence. The driveway would be 12 feet in width, crowned and gravel surfaced. This site currently has no improvements.

The following utility services would be developed at each site and as necessary, according to Carver County Ordinance No. 47. Electric and telephone service would be extended from existing utility features present along County Road 45 and Carver Highlands Drive. Wells would be drilled to provide water and propane tanks/lines would be installed for heating capabilities. Depending upon the soil type present, septic systems consisting either of a drain field or an above-ground mound system would be installed.

2.3 Summary of Alternative Actions Table

Actions	Alternative A (Proposed Action)	Alternative B (No Action)	Alternative C (Renovation w/ Bluff Top Dev.)	Alternative D (Dual Blufftop Development)
Under Fee Title	Yes	Yes	Yes	Yes
Building Construction	Yes, both shop and residence	None	Yes, both shop and residence	Yes, both shop and residence
Site Renovation	Will occur after building relocation	None	Will occur after building removal	Will occur after building relocation
Building Relocation	Yes	No	No	Yes
Utilities Present	No	Yes	Yes, at complex	No
Abandoned Building Removal	Yes	None	Yes	Yes
# of Acres Developed	9	0	2	7
Upland Territory	Yes	No	Partially	Yes
Within View shed of MN River	No	Yes	Yes, both complex and residence	Yes, residence only
Access to Established Roads	Yes	Yes	Yes	Yes

3. Affected Environment

3.1 Elements Common to All Sites

3.1.1 Local Socio-economic Conditions

All alternative sites are located on the Rapids Lake Unit, Minnesota Valley National Wildlife Refuge about three and one-half miles southwest of Carver (Carver County), Minnesota. Carver County is part of the seven-county Twin Cities Metropolitan Area which serves as a focal point for agriculture, transportation, industry, finance, trade and technology within the State.

The County's history has deep roots in agriculture through both crop and dairy farming. A rural setting was predominant throughout the County until the mid to late 1980's when an increase in residential development began. Over the last decade, residential development has exploded around the communities of Chanhassen, Chaska, Waconia, Carver and Victoria. Even though the County has also seen growth in light industry and retail/service trades around these communities, most residents commute to jobs within the Twin Cities or adjacent suburbs. Carver County currently has a population of 64,000 people.

3.1.2 Land Use

The Rapids Lake Unit and surrounding Carver County area falls within the “Agriculture District” classification of the Carver County Zoning Ordinance No. 47. Any proposed development by the Fish and Wildlife Service under this zoning ordinance would be considered an “Essential Service” under the category of “governmental uses”.

The Rapids Lake Unit is bounded on the north and west by single family residences, rural residential neighborhood developments, and agricultural land. On the east and south, the Unit is bounded by the Minnesota River, the Louisville Swamp Unit of the Refuge and Minnesota State Department of Natural Resources land (See Appendix B, Map #7). All aforementioned land lying east and south of the Minnesota River falls within Scott County jurisdiction.

The Rapids Lake Unit, being on the Refuge’s western boundary, is not centrally located at this time. *“To enhance the integrity of lands within the authorized boundary of the Refuge and contribute to the protection and restoration of fish and wildlife habitats within the Minnesota River watershed”* has been identified within the draft CCP as the Refuge’s goal for land protection. This particular goal’s objective to *“...contribute to the restoration of the Minnesota River by acquiring up to 36,000 additional acres of high quality fish and wildlife habitat within or adjacent to the Minnesota River Valley beyond the existing Refuge boundary and proceeding upstream to New Ulm, Minnesota...”* would place the Unit centrally within the Refuge’s proposed expanded boundary (See Appendix B, Map #8).

3.1.3 Listed, Proposed, and Candidate Species

There is one Bald eagle (*Haliaeetus leucocephalus*) nest located within the Rapids Lake Unit while two Bald eagle nests are located within the Louisville Swamp Unit of the Refuge. Currently only one of the three nests is actively used. No other Listed, Proposed or Candidate species are known to exist within the Rapids Lake Unit.

The known nest locations are not within close proximity of any alternative sites. Ample floodplain forest and wetland habitat which could potentially be used by feeding or roosting Bald eagles exist within both aforementioned Refuge units.

3.1.4 Other Wildlife Species

Forested and grassland habitats attract such species as the nighthawk, wood thrush, vireo, pheasant, turkey, Red-tailed Hawk,

American kestrel, Cooper's hawk, and several warbler and woodpecker species.

Common mammals in the area include white-tailed deer, raccoon, short-tail shrew, white-footed mouse, thirteen-lined ground squirrel, plains pocket gopher, eastern chipmunk, and eastern gray, eastern fox, and red squirrel. Additionally, red fox, coyote and gray fox are also common to the area.

An array of fish inhabits the Minnesota River such as the northern pike, large mouth bass, walleye, bluegill, crappie, catfish and carp. Numerous species of reptiles and amphibians such as the garter snake and the hog-nosed snake also occur in the area.

Other species common to the adjoining floodplain forest and wetland habitats include the Canada goose, Mallard, Wood duck, Green-winged Teal, Gadwall, American Widgeon, Great Egrets, Double-crested Cormorants, Great Blue Heron, Green Heron, Black-crowned Night Heron, Greater and Lesser Yellowlegs, Spotted Sandpiper, Common Snipe, American Woodcock, mink muskrat, beaver, and river otter.

3.1.5 Cultural/Paleontological Resources

As of March 2003, the National Register of Historic Places lists 32 properties in Carver County. None are in the vicinity of the Rapids Lake Unit.

A large number of archaeological and cultural sites exist on or near Refuge lands, including the Rapids Lake Unit. These sites include historic Native American village sites and burial mounds, early 19th century trading posts and ferry crossings, and early 20th century bridges and farmsteads. Thirteen sites plus one trail and one town-site and a linear archaeological survey are located within one mile of the proposed residence and maintenance complex.

A brick farmhouse, identified as Mittelsted House #1 (21-CR-132), is located near the project area in the NW NW NE NE, Section 6, T114N, R23W. This house dates to approximately 1867. By letter dated March 31, 1995, the Minnesota State Historic Preservation Officer (SHPO) recommended the house might be eligible for the National Register of Historic Places; it needs to have an evaluation study.

The Service is attempting to identify historic properties within the Area of Potential Effect (APE). Thus the Refuge has contracted for an archaeological survey of the project area and vicinity to

identify archaeological sites, which should be completed in spring 2003. The Service has notified ten Indian tribes about the project and the archaeological survey to learn of cultural sites important to the tribes.

New buildings on the landscape could have an adverse effect on historic properties in which the setting is an important quality of the historic property. Typically archaeological sites are not affected by changes to the surrounding setting, but buildings and some historic sites frequently are. The Service will attempt to identify potential historic properties within one mile and within view of the project areas that could be adversely affected by the new buildings.

The Service anticipates no adverse effect on any historic properties. But in any event the Section 106 process, to take into consideration historic properties, will be followed to the appropriate conclusion. The Regional Historic Preservation Officer will initiate consultation with the Minnesota State Historic Preservation Officer. The proposed project will not be implemented until the Section 106 process (National Historic Preservation Act) has been completed in accordance with 36 CFR Part 800.

No paleontological resources have been identified on the Rapids Lake Unit.

3.2 Site 1 (Bluff Top Land near Mittelsted House #1; Alternative A)

3.2.1 Site Proximity

This proposed development site located off of Carver Highlands Drive consists of 20 acres of bluff top land beyond the view shed of the Minnesota River (See Appendix B, Map #9). This site is part of an 85 acre expanse of prairie habitat managed by the Refuge. T.114N., R.23W., Section 6, W1/2 NE1/4 NW1/4.

3.2.2 Public Use

Currently, this proposed development site is open to public use. A substantial amount of recreational hunting occurs on the Rapids Lake Unit. Wildlife viewing and photography are two other popular public uses on this unit. At this time no environmental education or interpretive activities occur here.

3.2.3 Physical Characteristics

This proposed site consists of relatively flat to slightly undulating grassland bordered by sloped upland forest to the south. A

topographic survey and soil testing of the site have not yet been conducted. The soil series typical of dry prairies is Estherville while Hayden is the soil series typical of upland forests. Refuge personnel routinely mow this site during the growing season to maintain the area as grassland and prevent unwanted weed species from seeding.

3.2.4 Habitat/Vegetation

This alternative site consists of restored native grasslands which were planted with a grass mixture consisting predominantly of big bluestem, little bluestem, switch grass, side oats grama, blue grama, Kulm's brome, June grass and Indian grass. A limited amount of forest habitat exists along the bluff line perimeter of this site consisting of northern pin and white oaks. The shrub layer typically consists of hazel, dogwood and blackberries.

3.2.5 Cultural/Paleontological Resources

This site is located immediately north of the pipeline archaeological survey (Bailey 1999) that identified no historic properties in the vicinity.

3.3 Site 2 (Bluff Top Land Formerly Known as the Lutz Farm; Alternatives A and D)

3.3.1 Site Proximity

This proposed development site formerly known as the Lutz Farm is located directly off of Carver County Road 45 and consists of bluff top land 15 acres in size, beyond the view shed of the Minnesota River (See Appendix B, Map #10). T.115N., R.24W., Section 36, W1/2 NE1/4 SE1/4.

3.3.2 Public Use

Currently, this area is open to recreational public use. A substantial amount of recreational hunting occurs on the Rapids Lake Unit. Wildlife viewing and photography are two other popular public uses on this unit. At this time no environmental education or interpretive activities occur here.

3.3.3 Physical Characteristics

This proposed site consists of gently sloping grassland bordered by sloped upland forest to the east and north. A topographic survey of this site has been completed. The northern section of this site becomes relatively narrow in width due to topographical land changes.

Soil testing has also been completed at this site to identify primary and secondary locations for septic system placement. The soil series typical of dry prairies is Estherville while Hayden is the soil series typical of upland forests. The soil tests conducted at this site identified soils ranging from sand-silt mixtures to sand-clay mixtures to inorganic clays within the first three feet of depth. A poorly graded or gravelly sand soil type was consistently found at depths greater than three feet. This particular soil type exhibits excellent drainage characteristics.

Refuge personnel routinely mow this site during the growing season to maintain the area as grassland and prevent unwanted weed species from seeding.

3.3.4 Habitat/Vegetation

This site consists of restored native grasslands which were planted with a grass mixture consisting predominantly of big bluestem, little bluestem, switch grass, side oats grama, blue grama, Kulm's brome, June grass and Indian grass. A limited amount of forest habitat exists along the bluff line perimeter of this site consisting of northern pin and white oaks. The shrub layer typically consists of hazel, dogwood and blackberries.

3.3.5 Cultural/Paleontological Resources

This site is on or near the Lutz farmstead buildings site (also identified as Mittelsted #4). By letter dated June 13, 1996, the SHPO determined the buildings did not qualify for the National Register. The farmstead buildings have been removed.

3.4 Site 3 (Existing Maintenance Complex; Alternatives B and C)

3.4.1 Site Proximity

The existing maintenance facilities are located in close proximity to the Mittelsted House #1 which has been identified in the draft CCP and Refuge Mitigation Plan for use as a visitor contact station. This site is approximately five acres in size and is located directly within the view shed and floodplain of the Minnesota River (See Appendix B, Map #11). T.115N., R.23W., Section 31, SW1/4 SE1/4 SE1/4 and T.114N., R.23W., Section 6, NE1/4 NW1/4 NE1/4.

3.4.2 Public Use

The existing maintenance complex and surrounding area is closed to public use.

3.4.3 Physical Characteristics

This site consists of relatively flat grassland approximately five acres. The area is long and relatively narrow in width surrounded by sloped topographical land features. This site is bordered by upland forest to the west, north and northeast. Refuge personnel routinely mow this site during the growing season to maintain the area as an administrative site and prevent unwanted weed species from seeding.

A topographic survey and soil testing of the site have not yet been conducted. The soil series typical of dry prairies is Estherville while Hayden is the soil series typical of upland forests.

3.4.4 Habitat/Vegetation

Vegetation at the existing maintenance complex is a mixture of planted Kentucky blue grass, non-native grasses and weeds. Forest habitat which exists around this site consists of northern pin and white oaks. The shrub layer typically consists of hazel, dogwood and blackberries.

3.4.5 Cultural/Paleontological Resources

The existing Rapids Lake maintenance complex is located within the former farmstead buildings identified as Mittelsted #2. By letter dated March 31, 1995, the SHPO determined these buildings are not eligible for the National Register.

3.5 Site 4 (Bluff Top Land Overlooking Mittelsted House #1; Alternatives C and D)

3.5.1 Site Proximity

The two acre bluff top parcel identified as the proposed construction site of the refuge residence is located directly within the view shed of the Minnesota River (See Appendix B, Map #12). T.115N., R.23W., Section 31, SE1/4 SW1/4 SE1/4.

3.5.2 Public Use

This site is part of the area surrounding the existing maintenance complex which is closed to public use.

3.5.3 Physical Characteristics

This proposed site consists of relatively flat to slightly undulating grassland surrounded by sloped upland forest. A topographic survey and soil testing of the site have not yet been conducted. The soil series typical of dry prairies is Estherville while Hayden is the soil series typical of upland forests.

3.5.4 Habitat/Vegetation

Vegetation at this proposed site consists predominantly of non-native grasses and weeds which invaded after agricultural use ceased. Forest habitat exists along the bluff line perimeter of this site consisting of northern pin and white oaks. The shrub layer typically consists of hazel, dogwood and blackberries.

3.5.5 Cultural/Paleontological Resources

This site is on or very near the San Francisco Mound Group 21-CR-1.

4. Environmental Consequences

4.1 Alternative A (Proposed Action)

4.1.1 Habitat Impacts

Long term vegetation changes would occur where new buildings are constructed and with the placement of relocated buildings. Approximately seven acres of restored prairie consisting predominantly of big and little bluestem grass would be immediately impacted by the construction of the new maintenance shop and full development of the new maintenance complex, with 13 adjoining acres set aside for future expansion. Two more acres of restored prairie would also be impacted by the construction of the Refuge residence. After construction/development, areas not occupied by facilities would be replanted to native grasses that would be maintained. Soils on approximately nine acres of land would be impacted during construction/development periods. Minor disturbance to soils and vegetation would also occur during the relocation of two large machine sheds and hazardous materials storage building and the removal of the existing maintenance shop and abandoned farm structures. These areas would be restored to native grasses upon completion of relocation/removal activities. The impact to water quality would be minor and short term since precautions such as the use of siltation fencing and the development of water gardens, would be implemented to minimize the potential for erosion and sedimentation during all aforementioned activities.

4.1.2 Biological Impacts

This alternative would have short-term temporary impacts on wildlife during the construction of the new maintenance building and residence, development of the new maintenance complex, and removal of any old or abandoned buildings. Disturbance from these activities could cause feeding disruptions and/or nest abandonment during critical nesting periods for ground nesting

birds at or adjacent to activity sites. A negative effect on wildlife would occur since the development of a new maintenance complex would result in the fragmentation of 85 acres of prairie habitat. Fragmentation of this prairie would moderately reduce its value to area-sensitive ground nesting birds. Only two percent (2%) of grassland patches located throughout the Refuge and Wetland Management District are larger than 90 acres in size.

Construction of the residence would remove approximately two acres of restored prairie while development of a new maintenance complex would remove approximately seven acres of restored prairie from the Refuge.

4.1.3 Listed, Proposed, and Candidate Species

A Section 7 Consultation with Dan Stinnett of the Ecological Services Field Office located in Bloomington, Minnesota, has indicated there is only one listed species, the Bald Eagle, present near the proposed action site. There may be some temporary disturbance to roosting or feeding eagles on the Refuge as a result of the proposed action. Implementation of the proposed action though would not negatively impact the relative abundance of floodplain forest or wetland habitat. The known nest locations are not within close proximity of the proposed action site. Concurrence was obtained on April 14, 2003 that implementation of the proposed action is not likely to adversely affect nesting Bald Eagles and/or their critical habitat, as indicated on the Intra-Service Section 7 form (Appendix A).

4.1.4 Cultural Resources

This alternative would result in a new maintenance complex at Site 1 (Section 3.2), and a new residence at Site 2 (Section 3.3). Both areas are scheduled for archaeological survey in spring 2003. Neither site is within view of the Mittelsted House #1. Houses and other structures within one mile and within view of new buildings at Sites 1 and 2 are to be evaluated for eligibility for the National Register of Historic Places. The Section 106 process will be completed in each case.

4.1.5 Public Use

Approximately 35 additional acres would be permanently closed to public use with this alternative.

4.1.6 Refuge Operations

Through development of a new maintenance complex at this site, the Service would have the operational infrastructure to adequately maintain the Refuge's current land-base and public use facilities.

The new complex would also give the Service the operational ability to accommodate some future growth in its land-base and public use facilities. The 13 set-aside expansion acres would allow the Service's operational capability to grow with the Refuge's full anticipated level of growth (up to 36,000 additional acres).

Even though residence construction at the site formerly known as the Lutz farm would not create a physical deterrence to illegal activity, it would allow for quick response time by a Refuge employee to such activity anywhere on the Rapids Lake Unit. The Service would achieve long term fiscal responsibility from a substantial decrease in the occurrence of theft, vandalism, and arson to existing facilities and equipment located at Rapids Lake.

4.1.7 Visuals

There would be no effect on the visual quality of the area resulting from residence construction. The development of a new maintenance complex would have a negative effect on the visual quality of area by the introduction of several large buildings on an open prairie landscape. There would be a positive effect on the visual quality of the Minnesota River view shed due to the relocation of existing maintenance facilities and the removal of abandoned structures.

4.1.8 Environmental Justice

No minority or low-income populations would be displaced or negatively affected in any way by the proposed action.

4.1.9 Cumulative Impacts

Overall, planned construction activities balanced with planned structure removal/restoration activities would result in the net loss of approximately four acres of restored prairie and 85 acres of habitat fragmentation. If the Refuge or other agencies did similar projects which continued to incrementally reduce the overall amount of grassland and/or increase the amount of habitat fragmentation, cumulatively the impacts could be serious. As stated in the draft CCP, the Refuge's goal for land protection which emphasizes protection and restoration of wildlife habitats provides for an 8,700 acre increase in the amount of restored grassland by the year 2017, thus resulting in a positive cumulative effect on wildlife species dependent upon this habitat type.

No long term cumulative effects would occur to Listed, Proposed, and Candidate species due to activities associated with this alternative or similar action by other agencies.

Sedimentation resulting from construction-related erosion and newly developed parking areas is not expected to have any long term cumulative impacts. If other agencies did similar construction activities, the cumulative impacts would not be serious because of the stipulated management requirements and mitigation measures. All restorative and rehabilitative activities whether implemented by the Service or other agencies, focused on exposed soils and impermeable road surfaces would result in positive long term cumulative effects on water quality.

If the Service or other agencies implemented similar projects as this proposed action, a cumulative impact on known archaeological sites and other cultural resources would not be created.

A positive cumulative impact on the visual quality of the area would be achieved if the Service and other agencies decided to remove all existing buildings located within the view shed of the Minnesota River. A negative cumulative impact on the visual quality would occur if decisions to construct buildings within large, open expanses of prairie were repeatedly made.

Proposed construction and development activities would result in the net loss of approximately 35 acres currently open for public use. Decisions by the Service and other agencies to close public land would have negative cumulative impacts to recreational users of those lands. However, planned land acquisition by the Service would ultimately increase the amount of public land available for recreational use by 36,000 acres.

4.2 Alternative B (No Action)

4.2.1 Habitat Impacts

No new development would occur. The impact on vegetation would not change. There would not be any additional impacts to soils or water. Conditions would generally remain the same except for areas that are maintained for use.

4.2.2 Biological Impacts

The impact on wildlife would remain the same.

4.2.3 Listed, Proposed, and Candidate Species

There would be no effect since no new development would be implemented.

4.2.4 Cultural Resources

This alternative would result only in continued use of the existing maintenance facility at Site 3 (Section 3.4). Although this area is scheduled for archaeological survey in spring 2003, continued operation of this facility is unlikely to affect historic properties. Site 3 is within and part of the historic view from the Mittelsted House #1. The Section 106 process is completed.

4.2.5 Public Use

No additional acres would be permanently closed to public use with this alternative.

The location of the Mittelsted House #1, if used as a visitor contact station in the future, would require the visiting public and school groups to drive past or through the maintenance complex. Congestion and possibly hazardous conditions would be created on the access road in this situation. The quality of environmental education and interpretive experiences would be greatly affected also due to on-going maintenance and operational activities.

4.2.6 Refuge Operations

The impact on the Refuge of not upgrading the existing maintenance facilities and not constructing a Refuge residence would be a detriment to the Refuge. Deficiencies and space limitations of the existing maintenance facilities would compromise the Service's ability to maintain its current and growing land-base in addition to existing and planned public use facilities. The No Action alternative would not meet the National Wildlife Refuge System goals or the intent of the draft Comprehensive Conservation Plan for Minnesota Valley National Wildlife Refuge.

The existing maintenance complex is located on the outer edge of the 500 year floodplain delineation. The potential exists for this area to flood under the right set of circumstances.

Theft, vandalism, and arson of existing facilities and equipment located at the Rapids Lake Unit would continue, thus resulting in unnecessary financial burdens to the Refuge and ultimately the taxpayers.

4.2.7 Visuals

The existing maintenance complex is situated within the view shed of the Minnesota River. The impact on the visual quality of the area would not change.

4.2.8 Environmental Justice

This alternative would have no impact on low-income or minority populations.

4.2.9 Cumulative Impacts

No long term cumulative effects would occur to Listed, Proposed, and Candidate species.

Unaddressed sediment and erosion problems connected to existing exposed soils and impermeable road surfaces would lead to cumulative water quality degradation of the Minnesota River.

No cumulative effect to archaeological sites and other cultural resources would result from this alternative.

4.3 Alternative C (Renovation with Bluff Top Development)

4.3.1 Habitat Impacts

Long term vegetation changes would occur only where new buildings are constructed. Approximately two acres of non-native grassland would be impacted by the construction of the Refuge residence. An additional two to three acres of planted Kentucky blue grass, non-native grasses, and weeds would be impacted by the construction of the new maintenance shop. After construction, areas not occupied by facilities would be revegetated to native grasses that would be maintained. Soils on approximately five acres of land would be impacted during construction periods. Minor disturbance to additional soils and vegetation would occur during the removal of the existing maintenance shop and abandoned farm structures. These areas would be restored to native grasses upon completion of removal activities. The impact to water quality would be minor and short term since precautions such as the use of siltation fencing and the development of water gardens, would be taken to minimize the potential for erosion during all construction and removal activities in addition to the aforementioned restoration activities.

4.3.2 Biological Impacts

This alternative would have short-term temporary impacts on wildlife during the construction of the new maintenance building and residence and removal of any old or abandoned buildings. Disturbance from these activities could cause feeding disruptions and/or nest abandonment at or adjacent to activity sites. The effect on wildlife would be minor since often times another suitable location to feed and/or re-nest would be found.

Construction of the maintenance shop and residence would remove approximately four to five acres of grassland habitat from the Refuge.

4.3.3 Listed, Proposed, and Candidate Species

A Section 7 Consultation with Dan Stinnett of the Ecological Services Field Office located in Bloomington, Minnesota, has indicated there is only one listed species present, the Bald Eagle, near the proposed alternative. There may be some temporary disturbance to roosting or feeding eagles on the Refuge as a result of this alternative being implemented. Implementation of this alternative though would not negatively impact the relative abundance of floodplain forest or wetland habitat. The known nest locations are not within close proximity of the proposed alternative site. Concurrence was obtained on April 14, 2003 that implementation of this alternative is not likely to adversely affect nesting Bald Eagles and/or their critical habitat, as indicated on the Intra-Service Section 7 form (Appendix A).

4.3.4 Cultural Resources

This alternative would result in continued use of the existing maintenance facility at Site 3 (Section 3.4) and a new residence at Site 4 (Section 3.5). Both areas are scheduled for archaeological survey in spring 2003. Continued operation of the maintenance facility is unlikely to affect historic properties. Site 3 is within and part of the historic view from the Mittelsted House #1. Impacts to a significant archaeological site and a traditional cultural property are anticipated at Site 4. Site 4 is within view of the Mittelsted House #1. Houses and other structures within one mile and within view of a new building at Site 4 are to be evaluated for eligibility for the National Register of Historic Places. The Section 106 process will be completed in each case.

4.3.5 Public Use

No additional acres would be permanently closed to public use with this alternative.

The location of the Mittelsted House #1, if used as a visitor contact station in the future, would require the visiting public and school groups to drive past or through the maintenance complex. Congestion and possibly hazardous conditions would be created on the access road in this situation. The quality of environmental education and interpretive experiences would be greatly affected also due to on-going maintenance and operational activities.

4.3.6 Refuge Operations

The function and utility of this site as a maintenance complex is greatly hindered due to the limited size and general layout of the site. The site's narrow width restricts how it could be developed.

The renovated maintenance complex would provide the operational infrastructure to allow the Service to adequately maintain the Refuge's current land-base and public use facilities while also giving the Service the operational ability to accommodate some future growth in its land-base and public use facilities. In all likelihood though, the renovated complex would not be able to handle the Refuge's full anticipated level of growth (up to 36,000 additional acres) since it would not have the flexibility to further expand.

The existing maintenance complex is located on the outer edge of the 500 year floodplain delineation. The potential exists for this area to flood under the right set of circumstances.

The proposed bluff top location of the residence would provide the greatest amount of protection for the historic home and renovated maintenance complex. Occupancy of the Refuge residence in and of itself would be the ultimate deterrent of illegal activity. The occurrence of theft, vandalism, and arson to existing facilities and equipment located at Rapids Lake would substantially decrease, resulting in long term fiscal responsibility for the Service.

Compliance with the requirements of Carver County Zoning Ordinance No. 47 could be difficult to achieve if the residence was constructed at this bluff top site due to the potential cultural significance of the site.

4.3.7 Visuals

The existing maintenance complex is already situated within the view shed of the Minnesota River. The negative effect on the visual quality of this area as viewed from the Minnesota River would be significantly increased by constructing the residence at this bluff top site.

4.3.8 Environmental Justice

This alternative would have no impact on low-income or minority populations.

4.3.9 Cumulative Impacts

Overall, construction activities balanced with structure removal/restoration activities would only result in the net loss of

approximately two acres of grassland. If the Refuge or other agencies did similar projects which continued to further reduce the overall amount of grassland, cumulatively the impacts could be serious to wildlife species dependent upon that habitat type. Fortunately, the Refuge's goal for land protection which emphasizes protection and restoration of wildlife habitats provides for an 8,700 acre increase in the amount of restored grassland by the year 2017 thus resulting in a positive long term cumulative effect.

No long term cumulative effects would occur to Listed, Proposed, and Candidate species due to activities associated with this alternative or similar action by other agencies.

As previously mentioned, sedimentation resulting from construction-related erosion and parking area runoff is not expected to have any long term cumulative impacts. If other agencies did similar activities, the cumulative impacts would not be serious because of the stipulated management requirements and mitigation measures. Furthermore, all restorative and rehabilitative activities focused on exposed soils and impermeable road surfaces would result in positive long term cumulative effects on water quality.

Construction completed by the Service or other agencies that impact known archaeological sites and other cultural resources would create a cumulative impact on this resource without project modifications.

The long term visual quality of the area would be cumulatively impacted if the Service and other agencies repeatedly constructed buildings within the view shed of the Minnesota River.

No cumulative effect to the recreational use of the area would result from this alternative or similar action by other agencies.

4.4 Alternative D (Dual Bluff Top Development)

4.4.1 Habitat Impacts

Long term vegetation changes would occur where new buildings are constructed and with the placement of relocated buildings. Approximately two acres of non-native grassland would be impacted by the construction of the Refuge residence. Additionally, five acres of restored prairie consisting predominantly of big and little bluestem grass would be impacted by the construction of the new maintenance shop and full

development of the new maintenance complex. After construction/development, areas not occupied by facilities would be replanted to native grasses that would be maintained. Soils on approximately seven acres of land would be impacted during construction/development periods. Minor disturbance to soils and vegetation would occur during the relocation of two large machine sheds and hazardous materials storage building and the removal of the existing maintenance shop and abandoned farm structures. Those areas would be restored to native grasses upon completion of relocation/removal activities. The impact to water quality would be minor and short term since precautions such as the use of siltation fencing and the development of water gardens, would be implemented to minimize the potential for erosion and sedimentation during all activities.

4.4.2 Biological Impacts

This alternative would have short-term temporary impacts on wildlife during the construction of the new maintenance building and residence, development of the new maintenance complex, and removal of any old or abandoned buildings. Disturbance from these activities could cause feeding disruptions and/or nest abandonment at or adjacent to construction sites. The effect on wildlife would be minor since often times another suitable location to feed and/or re-nest would be found.

Construction of the residence would remove approximately two acres of grassland habitat while development of a new maintenance complex would remove approximately five acres of restored prairie from the Refuge.

4.4.3 Listed, Proposed, and Candidate Species

A Section 7 Consultation with Dan Stinnett of the Ecological Services Field Office located in Bloomington, Minnesota, has indicated there is only one listed species, the Bald Eagle, present near the proposed alternative. There may be some temporary disturbance to roosting or feeding eagles on the Refuge as a result of this alternative being implemented. Implementation of this alternative though would not negatively impact the relative abundance of floodplain forest or wetland habitat. The known nest locations are not within close proximity of the proposed alternative site. Concurrence was obtained on April 14, 2003 that implementation of this alternative is not likely to adversely affect nesting Bald Eagles and/or their critical habitat, as indicated on the Intra-Service Section 7 form (Appendix A).

4.4.4 Cultural Resources

This alternative would result in a new maintenance complex at Site 2 (Section 3.3) and a new residence at Site 4 (Section 3.5). Both areas are scheduled for archaeological survey in spring 2003. Site 2 is not within view of the Mittelsted House #1. Impacts to a significant archaeological site and a traditional cultural property are anticipated at Site 4. Site 4 is within view of the Mittelsted House #1. Houses and other structures within one mile and within view of new buildings at Sites 2 and 4 are to be evaluated for eligibility for the National Register of Historic Places. The Section 106 process will be completed in each case.

4.4.5 Public Use

Approximately 15 additional acres would be permanently closed to public use with this alternative.

4.4.6 Refuge Operations

The new maintenance complex, if developed entirely north of the existing driveway, would provide the operational infrastructure to allow the Service to adequately maintain the Refuge's current land-base and public use facilities in addition to also giving the Service the operational ability to accommodate limited future growth. That development by itself would not be able to handle the Refuge's full anticipated level of growth though (up to 36,000 additional acres). The Service would have the flexibility to manage its desired future land-base if it decided to develop and/or expand the maintenance complex on the south side of the existing driveway.

Complex development north of the proposed maintenance shop site would be affected by the limited space and the requirements of Carver County Zoning Ordinance No. 47. Compliance with road and bluff top setback requirements would result in the two machine sheds and hazardous materials storage building being placed in very close proximity to one another. This in turn would have a corresponding effect on the function and utility of the site.

Compliance with these same bluff top setback requirements could be difficult to achieve if the residence was constructed at the proposed bluff top site due to the potential cultural significance of the site.

Construction and occupancy of the Refuge Residence on the bluff overlooking the historic home would provide maximum protection for that particular facility. Response time to illegal activity occurring at other facilities on the Rapids Lake Unit would be

considerably shortened. The substantial reduction in the occurrence of theft, vandalism, and arson to existing facilities and equipment located at Rapids Lake would result in long term fiscal responsibility for the Service.

4.4.7 Visuals

Additional Complex development south of the driveway would greatly affect the visual quality of the area as viewed from the adjacent landowner's property. Such concern has already been expressed by this particular landowner. Complex development in compliance with the zoning ordinance within the limited space north of the proposed maintenance shop site would cause the overall area as viewed from County Road 45 to appear crowded, poorly planned, and unprofessional; essentially impacting its aesthetic value to the local community.

As with Alternative C, the visual quality of the area as viewed from the Minnesota River would be compromised by constructing the residence at the identified bluff top site. A positive effect on the visual quality of the Minnesota River view shed would be achieved though through the restoration of the existing maintenance complex site.

4.4.8 Environmental Justice

This alternative would have no impact on low-income or minority populations.

4.4.9 Cumulative Impacts

Overall, planned construction activities balanced with planned structure removal/restoration activities would result in the net loss of approximately two acres of grassland. If the Refuge or other agencies did similar projects which would incrementally reduce the overall amount of grassland, cumulatively the impacts could be serious. As mentioned previously, the Refuge's goal for land protection provides for an 8,700 acre increase in the amount of restored grassland thus resulting in a positive cumulative effect on wildlife species dependent upon this habitat type.

No long term cumulative effects will occur to Listed, Proposed, and Candidate species due to activities associated with this alternative or similar action by other agencies.

Sedimentation resulting from construction-related erosion and newly developed parking areas is not expected to have any long term cumulative impacts. If other agencies did similar construction activities, the cumulative impacts would not be

serious because of the stipulated management requirements and mitigation measures. All restorative and rehabilitative activities whether implemented by the Service or other agencies, focused on exposed soils and impermeable road surfaces would result in positive long term cumulative effects on water quality.

Construction completed by the Service or other agencies that impact known archaeological sites and other cultural resources would create a serious cumulative impact on this resource without project modifications.

Cumulatively, the long term visual quality of the area would be impacted if the Service and other agencies repeatedly constructed buildings within the view shed of the Minnesota River regardless of any decisions made to remove existing buildings.

The proposed activities would result in the net loss of approximately 15 acres currently open for public use. Decisions by the Service and other agencies to close public land would have negative cumulative impacts to recreational users of those lands. Planned land acquisition by the Service would ultimately increase the amount of public land available for recreational use by 36,000 acres.

4.5 Summary of Environmental Consequences by Alternative

Impacts	Alternative A (Proposed Action)	Alternative B (No Action)	Alternative C (Renovation w/ Bluff Top Dev.)	Alternative D (Dual Blufftop Development)
Adequate in Size	Yes	No	Yes, with future limits	Yes, with future limits
Meets Zoning Ordinance	Yes	N/A	Not Likely	Not Likely at Residence site
Flood Potential	None	Near 500 year floodplain	Near 500 year floodplain	None
Impact on Public Use	35 acre public closure	Would conflict w/proposed Visitor Contact Station	Would conflict w/proposed Visitor Contact Station	15 acre public closure
Impact on Visual Quality	Both positive and negative impacts	Impacts view shed of River	Negative, through residence construction	Both positive and negative impacts
Hazardous Materials Present	No	No	No	No
Impact on Wildlife	4 acre habitat loss (Potential future loss up to 13 more acres). 85 acre habitat fragmentation.	No habitat loss	2 acre habitat loss	2 acre habitat loss (potential future loss up to 10 more acres)
Impact on LPC Species	None	None	None	None
Water Quality Impact	Minimal	Moderate degradation	Minimal	Minimal
Impact on Cultural Resources	The Section 106 process will be followed	None	The Section 106 process will be followed	The Section 106 process will be followed
Illegal activity	Deterred	Ongoing	Deterred	Deterred

5. List of Preparers

The following individuals cooperated in the preparation of this document:

Team Leader: Linda Malz, Park Ranger, U.S. Fish and Wildlife Service, Minnesota Valley National Wildlife Refuge, Bloomington, Minnesota – author, research, data collection, editing, and etc.

Consultant: Jeff Gosse, Regional Environmental Coordinator, U.S. Fish and Wildlife Service, Ecological Services Region 3 Regional Office, Fort Snelling, Minnesota – Gave author guidance in Fish and Wildlife Service procedures for preparation of NEPA documents, editing, revision, coordination and information.

Team Member: Richard Schultz, Refuge Manager, U.S. Fish and Wildlife Service, Minnesota Valley National Wildlife Refuge, Bloomington, Minnesota – Project Manager, editing, revision and etc.

Team Member: Tom Kerr, Refuge Operations Specialist, U.S. Fish and Wildlife Service, Minnesota Valley National Wildlife Refuge, Bloomington, Minnesota – provided data, map preparation, editing and revisions.

Team Member: John Dobrovolny, Regional Historic Preservation Officer, U.S. Fish and Wildlife Service, Region 3 Regional Office, Fort Snelling, Minnesota – Cultural resource information.

Team Member: Nick Rowse, Wildlife Biologist, U.S. Fish and Wildlife Service, Bloomington Ecological Services Field Office, Bloomington, Minnesota – Provided wildlife and vegetation information, and conducted Section 7 Intra-Service Consultation.

Contributor: Paul Evenson, Engineer, U.S. Fish and Wildlife Service, Region 3 Regional Office, Fort Snelling, Minnesota – Provided engineering, design and soils information.

Contributor: Terry Schreiner, Refuge Operations Specialist, U.S. Fish and Wildlife Service, Minnesota Valley National Wildlife Refuge, Bloomington, Minnesota – Provided historical restoration information.

6. Consultation and Coordination with the Public and Others

The following consultation and coordination efforts were conducted in the preparation of this document:

Steve Just, Deputy Planning Director, Department of Planning and Zoning, Carver County, Chaska, Minnesota – Provided Carver County Zoning Ordinance No. 47, and interpretation and guidance on zoning compliance.

Daniel and Kristine Robb, adjacent landowners, Carver, Minnesota. On November 7, 2002, Richard Schultz, Refuge Manager, personally met with Daniel and Kristine Robb, adjacent landowners, at the site formerly known as the Lutz Farm. Rick Schultz explained the Service's alternative proposal to develop this site as a maintenance complex. The Robb's shared their thoughts regarding development at this site. First of all, concern was expressed regarding any development on the south side of the old driveway due to the visual impact it would have on their property. No concern was expressed regarding development north of the driveway. In actuality, gratitude was expressed by Mr. Robb over any proposal to develop facilities north of the driveway since Service presence there would result in the area being administratively closed to hunting. In the past, the Robb's have experienced disturbance and trespass problems from hunters utilizing Refuge lands. Finally, Mr. Robb questioned Rick Schultz as to whether the Service considered developing the site formerly known as the Mittelsted Picnic Shelter. Rick Schultz explained that this site consisted of remnant native prairie and would not be developed.

The Regional Historic Preservation Officer, U.S. Fish and Wildlife Service, notified ten Indian tribes about the project and the archaeological survey via letter dated March 26, 2003 to learn of cultural sites important to the tribes. The Wyandotte Nation of Wyandotte, Oklahoma responded to this notification on March 31, 2003 via the following statement, “Examination of historic files find no properties documented within project area that meet criteria of traditional value. Archaeological material could likely be encountered which requires immediate notification.”

A news release was issued by the Service on April 23, 2003, to solicit any issues or concerns from the public between the dates of April 24, 2003 and May 27, 2003. A copy of the Draft EA was also posted for public review on the Service’s internet web page for Region 3 during this same comment period.

A copy of the Draft EA was provided to the Minnesota State Historic Preservation Officer, the Carver County Historical Society, and the Minnesota State Archaeologist, in addition to the Deputy Planning Director for Carver County.

On May 19, 2003, the Service met with board members and interested residents of San Francisco Township, Carver County, Minnesota, to give them information on the proposed action and alternatives, and the issues and concerns related to the project. The board members and residents were requested to give the Service in writing any of their thoughts, issues, and concerns on the proposal. Throughout the meeting, board members asked questions clarifying the project proposal. Individuals in attendance included: Larry Schmidt, Maidie Felt, Gerald Scott, Denise Andersen, Peggy Hughes, Terry Diebel and Cal Haasken.

Public input was also solicited through the CCP planning process through various news releases and public open house meetings.

7. Public Comments on Draft EA and Responses

The U.S. Fish and Wildlife Service did not receive any verbal or written comments on the Draft EA.

8. References Cited

Draft Comprehensive Conservation Plan and Environmental Assessment, U.S. Fish and Wildlife Service, Minnesota Valley National Wildlife Refuge and Wetland Management District, June 2002.

Fulfilling the Promise – The National Wildlife Refuge System, U.S. Fish and Wildlife Service, March 1999.

Appendices